Safety Notice

Date: July 20, 2010

Software Upgrade for Model GPD Diesel Fire Pump Controller

1. Scope

As a responsible fire pump controller manufacturer, Tornatech has a policy concerning divulging potential malfunctions of its products that may occur under certain circumstances. A potential malfunction, if not detected and addressed, may affect the performance of the Fire Pump Controller. A Safety Notice is published when the rate of the failure is low or that the root of the problem has not been completely identified by Tornatech.

The NFPA-25 standard requires periodic inspection of the fire pump installation. A Safety Notice is important to the operator of the fire pump installation during the course of his periodic inspection. It allows the operator to verify specific components that are subject to a Safety Notice.

Specific components subject to a Safety Notice are covered by the Tornatech Limited Warranty Policy [1] with an addition of an extended period of 5 years from date of start-up not exceeding 7 years from date of shipping.

2. Description of potential malfunction.

The digital display is blank and LED's are randomly lit. The Diesel Fire Pump Controller functions in manual mode only.

3. Cause of the potential malfunction.

Corruption and / or bad writing of the flash memory.

4. Potential affected controllers serial numbers:

- Diesel Fire Pump Controllers with a serial number ranging from Z-20306xxx x/x to Z-206xxxx x/x are subject to develop this potential malfunction.
- Diesel Fire Pump Controllers with a serial number less than or equal to Z-21682 are subject to develop this potential malfunction.
- Consult factory for Diesel Fire Pump Controllers with a serial number ranging from Z-21683 to Z-26385
- Diesel Fire Pump Controllers with a serial number greater than or equal to Z-26386 are not subject to this Safety Notice.

5. Rate of potential malfunction occurrence.

This problem occurs only when the two following conditions occur simultaneously:

- Boot-up after a complete shutdown (removal of DC power), and

- Memory corruption

Hence, the rate of occurrence is then very low and difficult to estimate.

6. How to detect the potential malfunction.

The diesel fire pump controller display is blank but fire pump controller works in manual mode. The "controller trouble" dry alarm contacts close signalling the fault to the remote panel accordingly.

7. How to prevent the potential malfunction.

Because this potential malfunction occurs only after a complete shutdown or during a battery replacement, the batteries must to be replaced one at a time so that the controller is always powered.

8. How to fix the potential malfunction.

a. Record the serial number of the Fire Pump Controller itself and contact Tornatech Customer Service Department to report the situation.
b. Tornatech Customer Service Department will send a software upgrade module.
c. Connect the software upgrade module to the Diesel Fire Pump Controller and download the new software.
d. Send the upgrade module back to Tornatech for a refund.

This upgrade is recommended for the most reliable performance of the fire pump controller.

9. What Tornatech has done to stop occurrence of this potential malfunction?

a. Tornatech and FM Approvals have commonly agreed that Tornatech can provide the possibility of upgrading the software on site by using a stand-alone software upgrade module.

[1] *"This warranty does not cover reimbursement for labour, gaining access, removal, installation, temporary power or any other expenses which may be incurred in connection with repair or replacement."*

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SOFTWARE UPGRADE FOR MODEL GPD DIESEL FIRE PUMP CONTROLLER

USER MANUAL

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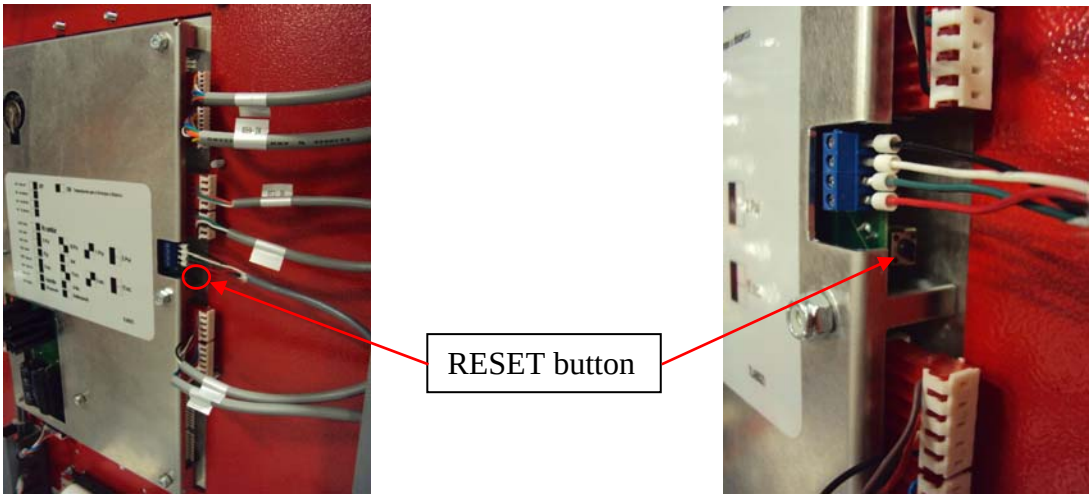
GENERAL

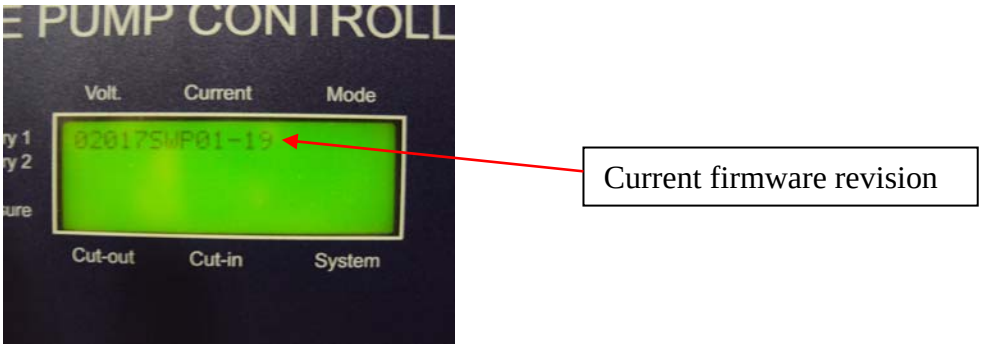
The stand alone programmer ***Cyclone for RENESAS*** is used to program TORNATECH Diesel Fire Pump Controllers and EPSR boards in TORNATECH Electric Fire Pump Controllers.

Updating your firmware has never been so easy. Just follow the procedure and you will be able to restart the controller with the new firmware in minutes.

STEP BY STEP PROCEDURE FOR OLD DIESEL FIRE PUMP CONTROLLERS

1. Open the door and reset the main board by pressing once the RESET button on the vertical right side of the board as you see in the picture. The controller's current firmware will then be displayed on the screen that is located on the front of the door. Take note of the current firmware. You will use this current firmware name to identify the **UPGRADER** firmware in step 14.





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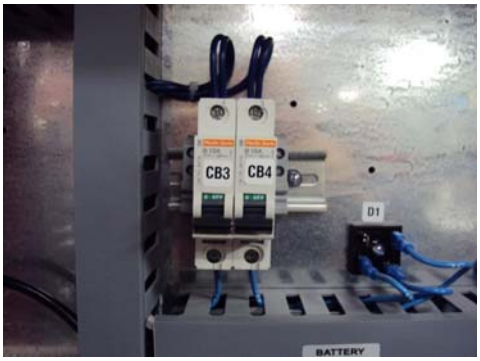
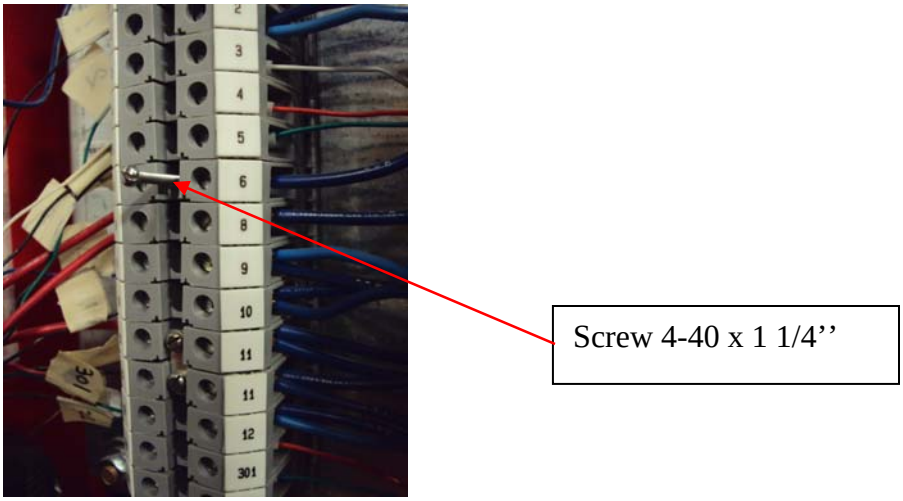
2. Switch off CB3 and CB4 breakers inside the controller. Verify that the display on the controller's door is OFF.



3. Verify voltage between terminal 6 (+) and 11 (Gnd). This is Battery 1 voltage. It has to be approximately 12.9 Vdc or 25.8 Vdc for 24V controllers.

4. Put the main selector switch to OFF position to avoid any unwanted start during upgrade.

5. Install screw 4-40 x 1 1/4" long on terminal 6 (+).



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6. Connect ***RENESAS*** power supply to a 100-240V 50/60Hz power socket and to the RENESAS stand alone programmer power jack. ***RENESAS*** display will be ON immediately.

7. Plug white-marked cable to the white-marked jack on ***RENESAS***.

8. Plug red-marked cable to the red-marked jack on ***RENESAS***.

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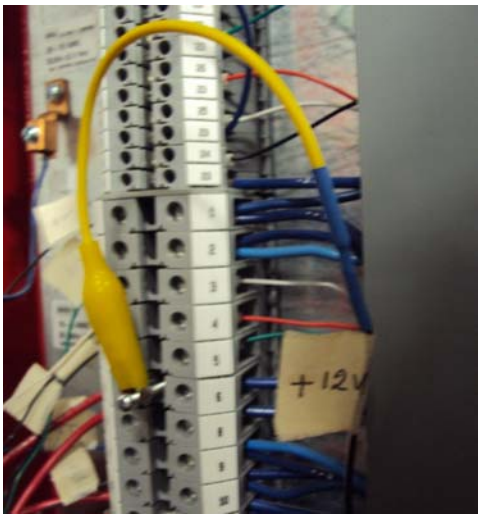
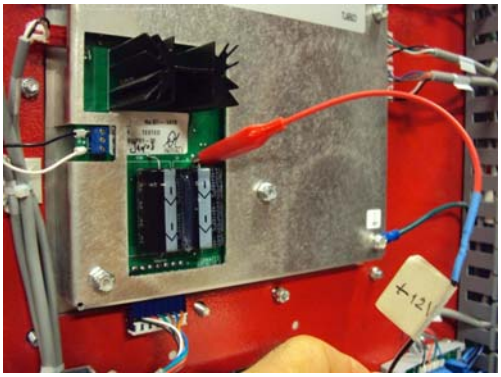
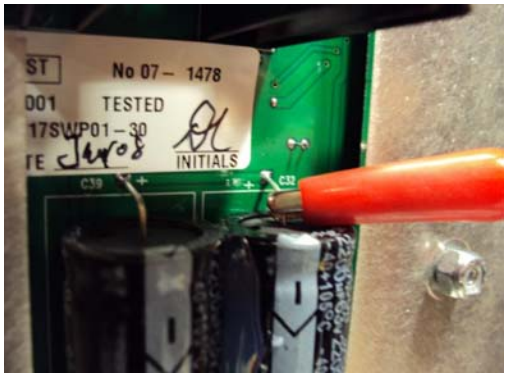
9. Connect the yellow crocodile clip marked +12V to the screw installed on terminal 6 (+).



10. Connect the red crocodile clip marked +12V to the power capacitor top extremity on the main board.





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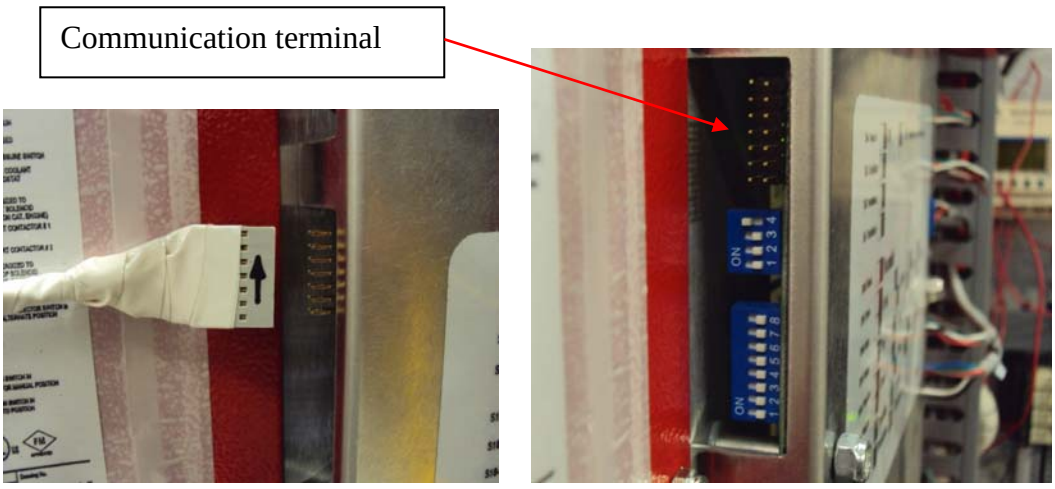
11. Connect communication cable end marked green to the ***RENESAS*** 14 pin target connector. Be sure to connect the cable exactly as indicated on the following picture, otherwise communication will fail. The green mark on the connector must be face up.

12. Connect communication cable end marked white to the communication terminal on the main board (14 pin terminal in two vertical rows of 7 pin each), exactly as shown on the picture. Be sure to connect the cable exactly as indicated on the following picture, otherwise communication will fail. There's a black arrow marked on the connector, you have to see this arrow pointing upwards when connecting the cable.



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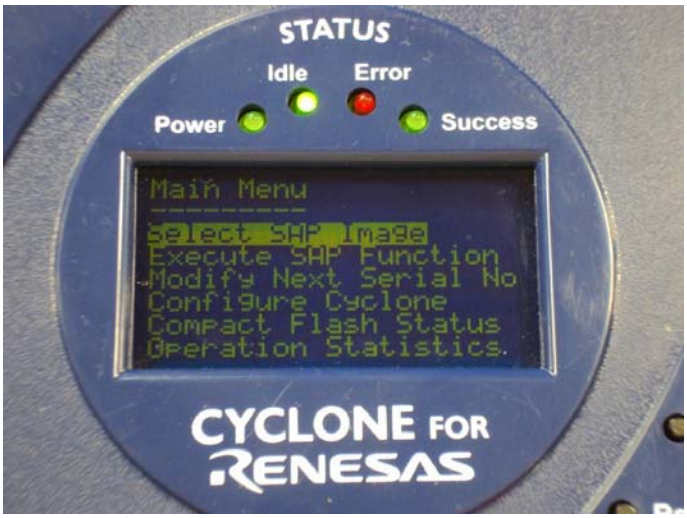
13. Press Menu / Select on ***RENESAS***. You will see the following screen on ***RENESAS*** display.



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14. Press Menu / Select again. The screen will show a list of programs. Press Aux / ⬇ or Start / ⬆ to go to program **UPGRADER XX-YY**.

    Here's the table to choose the right **UPGRADER** according to your current firmware. Find your current firmware on the table and select the **UPGRADER** on the right column.

    Note: If your firmware revision is not on the table, please contact TORNATECH Inc.

Current Firmware	**UPGRADER to use**
02017SWP01-31 02017SWP01-30	UPGRADER 30-31
02017SWP01-27 02017SWP01-25 02017SWP01-24 02017SWP01-23 02017SWP01-22	UPGRADER 22-27
02017SWP01-20 02017SWP01-19 02017SWP01-18	UPGRADER 18-20
02017SWP01-17	UPGRADER 17
02017SWP01-14 02017SWP01-13 02017SWP01-12 02017SWP01-10 02017SWP01-06 02017SWP01-04	UPGRADER 04-14
02017SWP01-02 02017SWP01-01	UPGRADER 01-02

Note: If **"controller trouble alarm"** is being used, consider to change the contact you are using for the opposite one for current firmwares going from **02017SWP-01** to **02017SWP-19**. Once the final firmware downloaded, the controller trouble relay will be always energized in normal condition.

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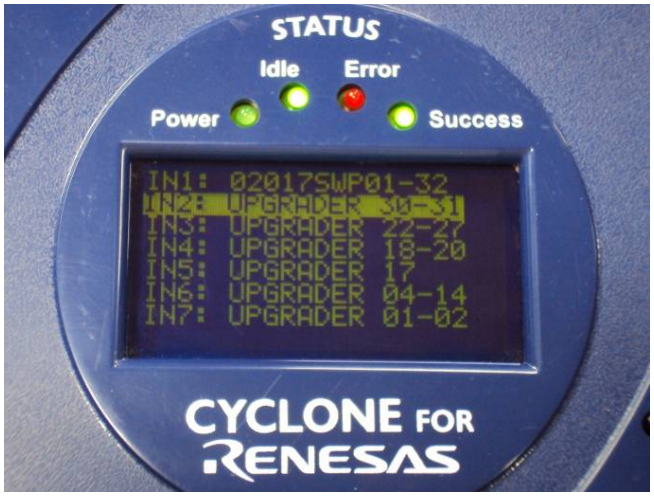
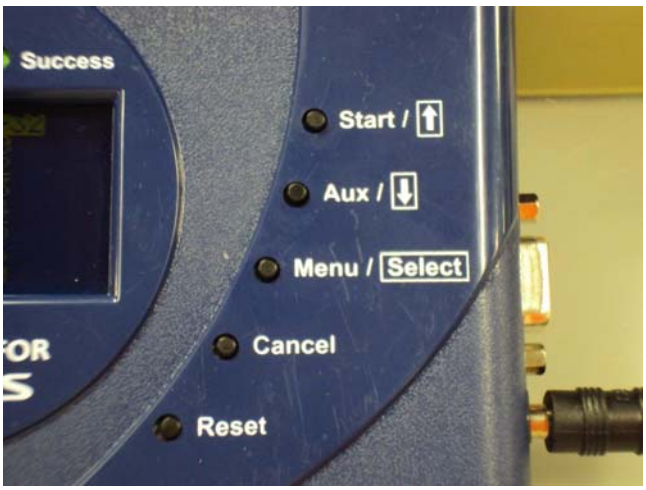


Example: If your firmware presently installed is 02017SWP01-30, then choose **UPGRADER 30-31.**

Once your **UPGRADER XX-YY** selected press Menu / Select again.

15. The **UPGRADER XX-YY** program selection is done. Press Start / ⬆ on ***RENESAS***. This step will erase all the pressure and event logs and save all the basic parameters.



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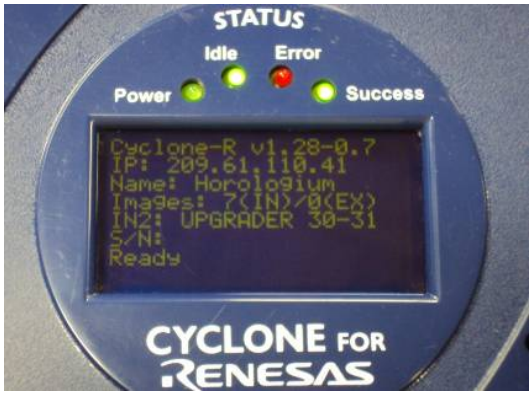
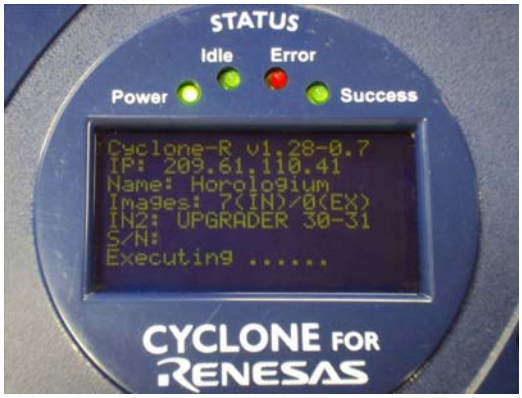
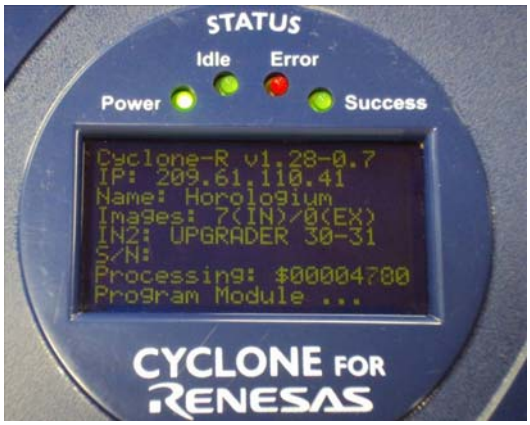
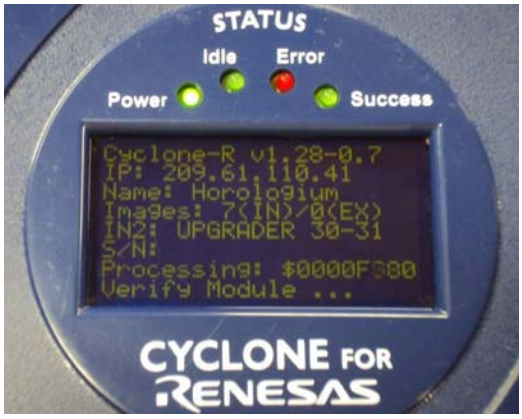
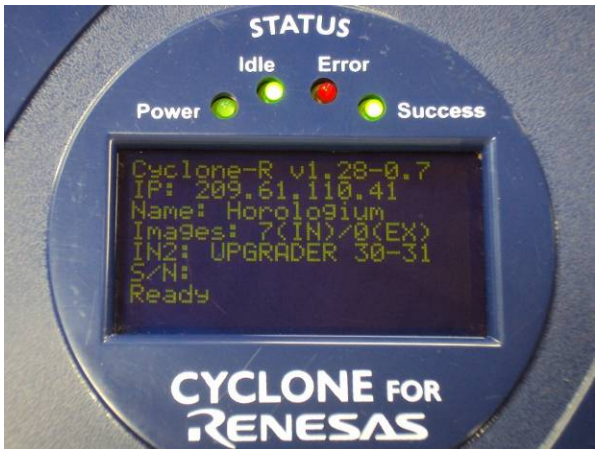
16. Wait until the Success LED is ON. The following pictures show the consecutive screens on RENESAS display. Download and verification will take approximately 2 minutes.











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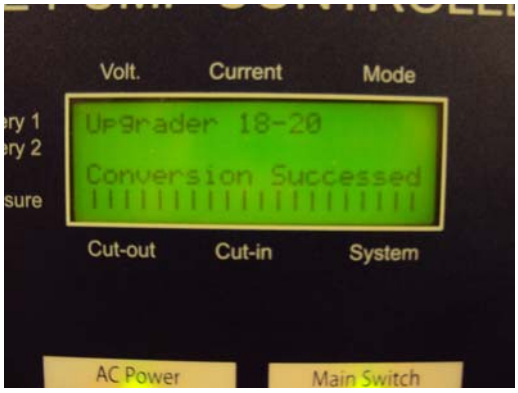
17. Unplug ***RENESAS*** power jack. Internal power contacts will change state and the board will be energized. Wait until the message “Conversion successed” appears on the door display.

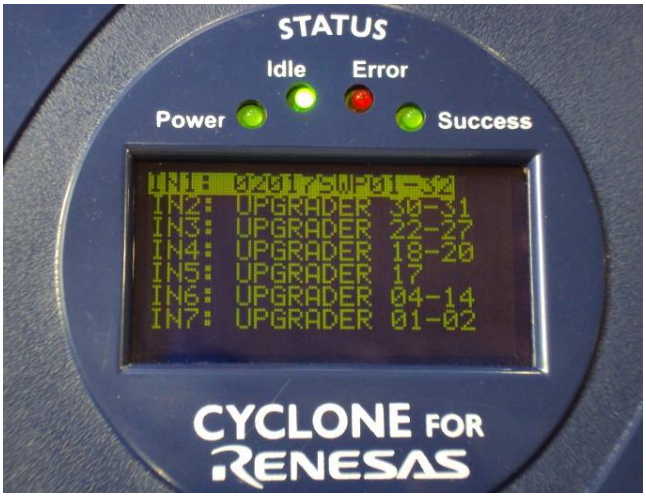


18. Plug again ***RENESAS*** power jack. This will shut off the board.

19. Press Menu / Select on ***RENESAS***. You will see the same screen of step 13 on ***RENESAS*** display.

20. Press Menu / Select again. The screen will show the list of programs. Press Aux / ⇩ or Start / ⇧ to go to program “**02017SWP01-32**”.

    Press Menu / Select again.



21. The final program is selected Press Start / ⇧ on ***RENESAS***. This step will download the final program into the main board.

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22. Wait until the Success LED is ON. Download and verification will take approximately 2 minutes.

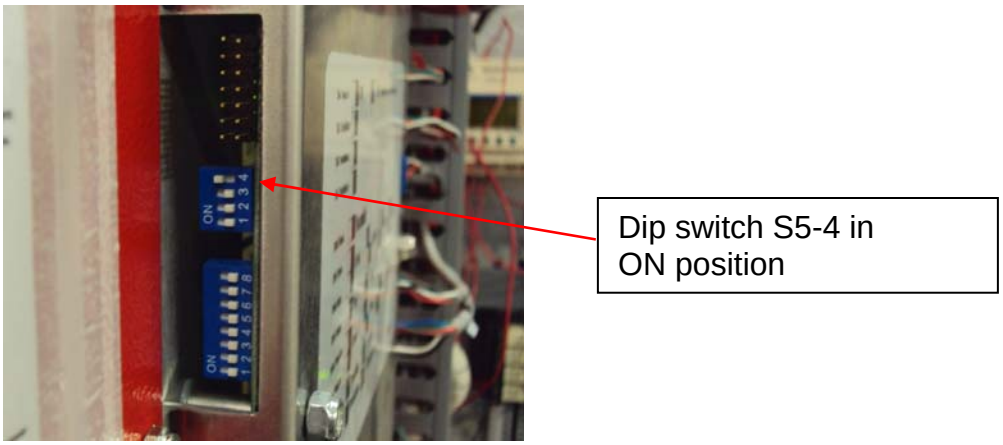
23. Disconnect red crocodile clip marked +12V from power capacitor top extremity on the main board, disconnect the yellow crocodile clip marked +12V from the screw installed on terminal 6 (+), and disconnect communication cable from the ***RENESAS*** 14 pin target connector and the communication terminal on the main board.

24. Unplug the stand-alone programmer ***RENESAS***.

25. Remove screw from terminal 6.

26. Switch on CB3 and CB4 breakers and immediately verify on the door display that the firmware revision is **02017SWP01-32.**

27. Check pressure reading on the display. If the pressure is 0 or very low put dip-switch S5-4 to ON position.



The controller is ready to work. Close the door and switch the main selector to Automatic position.

Thanks for choosing TORNATECH Diesel Fire Pumps Controllers…!!!